

What Is Claimed Is:

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1. A method for controlling wheel brakes in an electrical braking system of a motor vehicle, comprising the steps of:

generating control driving signals for valve arrangements for a control of a braking pressure in a first group of the wheel brakes from a first power circuit and for a control of a braking pressure in a second group of the wheel brakes from a second power circuit that is independent of the first group of the wheel brakes; and

detecting a first fault in an area of at least one of the valve arrangements, a pressure supply, and an electrical system of the electrical braking system, wherein:

when a second fault affects those of the wheel brakes supplied by the first power circuit, the control driving signals for one of the valve arrangements are generated, a power for an activation of the one of the valve arrangements originating from the second power circuit.

2. A method for controlling wheel brakes in an electrical braking system of a motor vehicle, comprising the steps of:

generating control driving signals for valve arrangements for a control of a braking pressure in one of the wheel brakes from a first power circuit, a braking pressure being provided by at least one of an accumulator and a pump; and

detecting a first fault in an area of at least one of the valve arrangements, a pressure supply, and an electrical system of the electrical braking system, wherein:

when a second fault occurs in one of an accumulator circuit, a pump circuit, and the first power circuit, a valve is activated at a brake actuator of a front one of the wheel brakes, the valve isolating the pump circuit from the accumulator circuit.

3. The method according to claim 1, wherein:

when a fault condition occurs, the control driving signals are generated to actuate at least one of additional valve arrangements and existing valve arrangements via a redundant electrical control on the basis of the power of the second power circuit.

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4. The method according to claim 1, wherein:

in a fault condition of one of the wheel brakes, a speed of the motor vehicle is limited.

5. The method according to claim 2, wherein:

in a fault condition of one of the wheel brakes, a speed of the motor vehicle is limited.

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6. The method according to claim 1, wherein:

in a fault condition in an area of a front axle brake actuator, a braking pressure control occurs in front ones of the wheel brakes according to control driving signals generated from a control module assigned to one of rear ones of the wheel brakes.

7. The method according to claim 2, wherein:

in a fault condition in an area of a front axle brake actuator, a braking pressure control occurs in front ones of the wheel brakes according to control driving signals generated from a control module assigned to one of rear ones of the wheel brakes.

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8. The method according to claim 1, wherein:

when a fault condition occurs, control driving signals of a control module of those of the wheel brakes corresponding to rear axle brakes are generated to activate additional valve arrangements via which a braking pressure in those of the wheel brakes corresponding to front wheel brakes is set.

9. A computer program for causing a computing unit of a control unit to perform the steps of:

generating control driving signals for valve arrangements for a control of a braking pressure in a first group of wheel brakes from a first power circuit and for a control of a braking pressure in a second group of the wheel brakes from a second power circuit that is independent of the first group of the wheel brakes; and

detecting a first fault in an area of at least one of the valve arrangements, a pressure supply, and an electrical system of an electrical braking system, wherein:

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